A New Name for the Heron Island Volute

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During recent years, intensive collecting of shells along the east coast of Australia has brought to light many new forms of well-known species. This has been especially true of the shells collected by trawling along the continental shelf, and several deep water species, known only from beach specimens, have been found in considerable numbers and in perfect condition. Among these new discoveries are some shells of the volutid genus *Cymbiolacca* Iredale, belonging to the series of species originally described as *Voluta pulchra* Sowerby, 1825, *Voluta punctata* Swainson, 1823, and *Voluta (Aulica) wisemani* Brazier, 1870.

A full discussion of the variation and taxonomy of this genus is in course of preparation, but a most surprising discovery is here recorded, prior to the more detailed review. This discovery came from the attempt to identify a series of shells which occur on the east coast of Queensland in the neighbourhood of Keppel Bay. The shells immediately recalled the well-known Heron Island Volute which has for more than a century been known under the name *Voluta pulchra* Sowerby. These coastal shells differed, however, in that the form was more elongate, with three bands of small dark spots circling the shell, in contrast to the bands of large spots found on the Heron Island species. Heron Island is about forty miles east of Gladstone, Queensland, in the Capricorn Group.

Reference to the original description of *Voluta pulchra* revealed that it was based on one of these coastal shells, and was not the Heron Island shell at all. The misapplication of this name has been made for over a century, and has only been brought to light now because of the intensive collecting of shells along the Queensland coast in recent years. It is indicative of the vast amount of nomenclatural work which remains to be done on even our best known groups of marine molluscs.

Once the identity of *Voluta pulchra* is considered historically, it becomes obvious that the type specimen could not have come from the Capricorn Group. Iredale (1939) has pointed out that any shells from the Queensland coast which were in England before 1825 must have been collected by Captain Cook's expedition. The narrative of this expedition reveals that Cook did not visit the Capricorn Group, but did land on the Queensland coast at Bustard Bay, south of Bustard Head, and at Thirsty Sound, near Broad Sound, about 100 miles N. of Rockhampton. At both these places, it is likely that Cook's party could have picked up one of these coastal shells.

Sowerby gave no locality when describing the shell, the later selection of Heron Island as type locality for *V. pulchra* being the result of Macgillivray's having collected shells at Heron Island, probably during the voyage of the *Fly*.*

Since these shells were close to Sowerby's figure of *pulchra,* they were at once identified with it and figured under that name by Reeve, after which the identification came to be completely accepted. However, once the

* Cox (1872) states that Macgillivray records this shell as having been found at Heron Island in "The Voyage of the *Rattlesnake*." No such record occurs however in Macgillivray's (1852) account of that voyage, on which Heron Island was not visited. Macgillivray was also on the *Fly* a few years earlier, and while there is no record of the discovery of "*V. pulchra*" in Jukes' (1847) narrative of the Voyage of the *Fly*, it is probable that the shells were picked up when that expedition visited Heron Id.
Apparently Macgillivray reported his discovery verbally to Cox when he was later in Cox's employ.

original figure of *pulchra* is examined and compared with Heron Island and coastal shells, there can be no doubt as to which is true *pulchra*. The key character is the number and size of the dark spots in the bands circling the shell; in the Heron Island shell (of comparable size) only about 15-18 spots up to 2 mm. long are visible on the oral (or ventral) surface, whereas Sowerby's illustration shows about 35 spots. Coastal shells have spot counts ranging from 25 to 60 or more. The spines are also conclusive, for in Sowerby's illustration they are low and not outstanding, a characteristic of the coastal shells, whereas in Heron Island shells, the spines are erect, outstanding, and continue down the sides of the body whorl as low ridges.

Since all subsequent authors have accepted Reeve's determination, there is only one descriptive literature reference to Sowerby's species (which must be referred to *Cymbiolacca* Iredale) and that is the original description. Cotton (1949, pl. 13) has inadvertently figured true *C. pulchra* under the name *Cymbiola wisemani* Brazier, a quite different species.

These two forms, from the Queensland Coast, and the populations from the Capricorn Group, are here considered to be subspecifically separable only. The Capricorn populations are named as new below, while the coastal populations, being the nominate race will be known as *Cymbiolacca pulchra pulchra*. Some shells from the neighbourhood of Bustard Head, appear to be to some extent intermediate between the true *pulchra* and the island subspecies, and these are considered to be hybrids between the two races. A fine specimen of *C. pulchra pulchra* (Sowerby) is illustrated in figs. 5 and 6, whilst figures 3 and 4 are copied from the original illustration of the holotype, which is in the British Museum, No. 1957.10.10.1.

Cymbiolacca pulchra woolacottae, ssp. nov.

(Figs. 1 & 2.)

Voluta pulchra, Reeve, 1849, Conch. Icon. 6: Voluta, pl. 21, sp. and fig. 54 a & b: (Not *Voluta pulchra* Sowerby 1825, Tankerville Cat., App. p. 28, pl. 4, fig. 2).

Voluta pulchra, Cox, 1872, Distribution of Australian Volutes. Sydney, p. 10.

Voluta pulchra, Tryon, 1882, Man. of Conch., 4: 86, pl. 25, fig. 50.

Aulica pulchra pulchra, Maxwell Smith, 1942, *A Review of the Volutidae,* p. 40, pl. 18, fig. 124.

Cymbiola pulchra, Allan, 1950, *Australian Shells,* p. 167, pl. 25, fig. 4.

Remarks: This well-known subspecies has only recently been collected in quantity from islands in the Capricorn and nearby groups other than Heron Island. There is some variation between the populations from different islands, but all preserve certain basic characters which serve to separate these island populations from the coastal race. All have decidedly fewer spots, which tend to be much larger, often exceeding 4 mm. in length (this being due to fusion of several spots). Sometimes there are practically no spots visible on the oral (ventral) surface and the number seldom exceeds 18. Heron Island shells are fairly constant and are regarded as typical, the description below being based on them. From Wistari Reef, the shells are variable, some being quite red in background colour, some having elongate spires and resembling North West Island shells. Shells from the latter island are usually small, with elongate spires, smaller white triangles and often with light background colours, pinkish-orange to yellow being common.

A shell from Lady Elliott Island is larger, the background colour light, almost creamish white, and the spots are large. A shell in the

collection of Mr. P. Goadby from Fairfax Island, Bunker Group, is similar to the Lady Elliott Island shell. Despite this variation, there can be no doubt that the populations from the several islands are to some extent members of an interbreeding population inhabiting the offshore islands of Queensland near the Tropic of Capricorn. It is likely that there is also a certain amount of gene-flow between these populations and the coastal populations, as the Bustard Head shells mentioned previously suggest.

Description: Shells small to medium sized, the maximum length about 80 mm., but specimens are commonly about 60 mm. long; the maximum width about 48% to 52% of the maximum length. Spire short, body whorl large, quite shouldered and bearing prominent, sharp, outstanding spines which are slightly recurved and continue part way down the body whorl as low rounded ridges; the spines develop quite early and as a result of their standing out from the shell, the spire has a stepped appearance. The spines continue to form right to the edge of the lip, though in populations from islands other than Heron Island, the last two spines may be a little reduced. Ground-colour of shell pinkish-brown, on which are superimposed numerous large white triangles, some reaching 5 to 10 mm. across, others smaller. Two pinkish bands run around the body whorl, one below the spines, the other half-way down the shell; there is a faint suggestion of a basal band above the columellar callus, but this is more or less obscured by white triangles. A few large black or dark-brown spots are scattered along the pinkish-brown bands, very rarely a little beyond the edges, between the bands; the spots fairly large, elongated vertically, usually more than 1 mm. long, sometimes up to 4 mm. or more.

This sub-species is named in memory of the late Mrs. Lee Woolacott, who devoted many hours of voluntary labour to the Department of Molluscs at the Australian Museum and who took a special interest in the marine mollusca of Queensland. She was much loved by all who knew her, and it is fitting that this beautiful shell should be named for her.

Types: The holotype of *Cymbiolacca pulchra woolacottae* is in the Australian Museum, Registered Number C.62264, from Heron Island, collected by Miss Elizabeth Pope, June, 1951. Paratypes are from Heron Island (C.62265), Masthead Island (C.18942), North-West Island (C.62266), and Lady Elliott Island (C.37531), Queensland.

Dimensions of Holotype: Length 77 mm., maximum width 39 mm., apertural height 56 mm.

Records: As above and from Wistari Reef, and Fairfax Island, Bunker Group (P. Goadby Collection).

Range: The Capricorn Group, Bunker Group, and Lady Elliott Island, off the Central Queensland Coast.

Habitat: On coral reefs in sand patches at low tide.

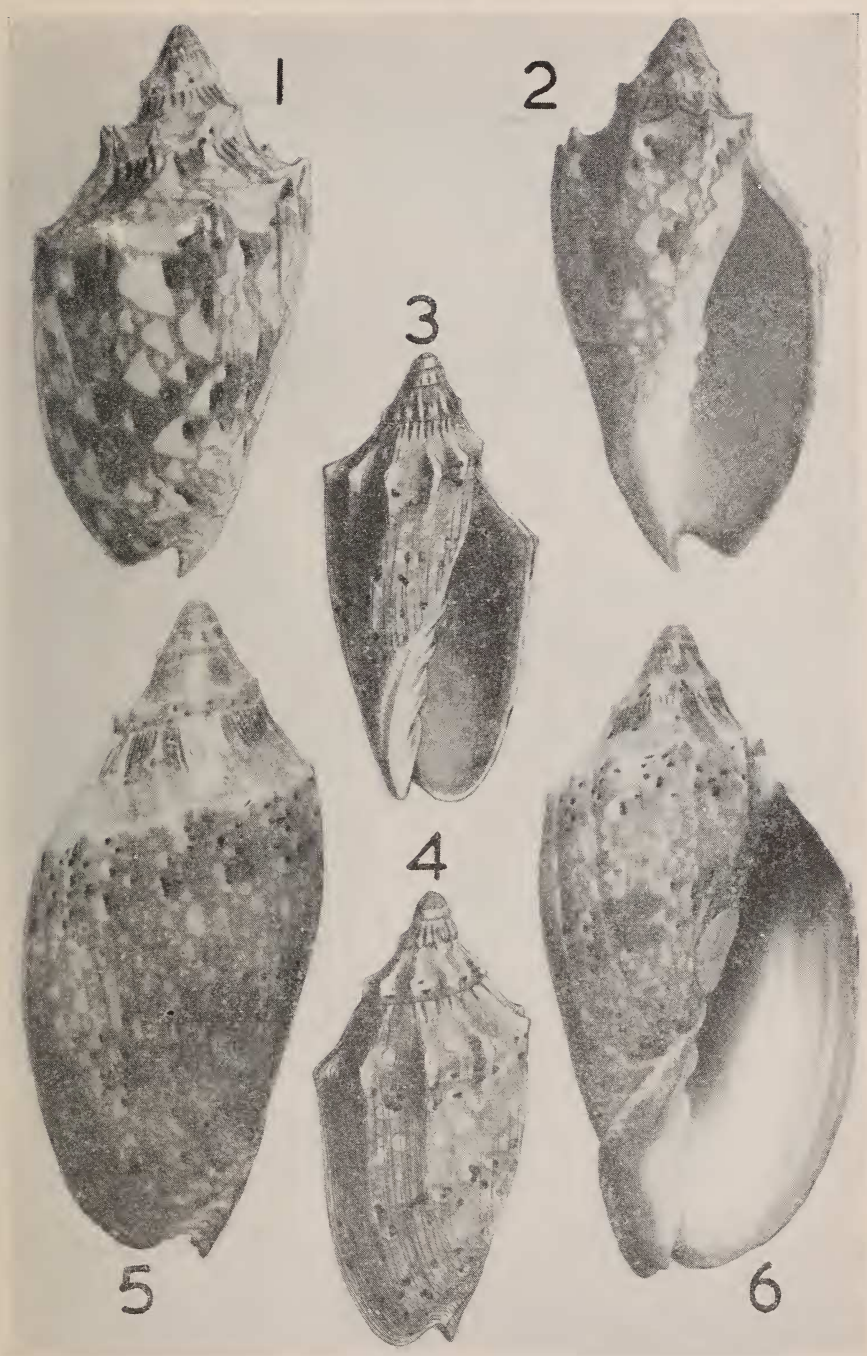
EXPLANATION OF PLATE.

(All figures approximately natural size.)

Figs. 1 & 2. *Cymbiolacca pulchra woolacottae,* ssp. nov. Holotype. Australian Museum registered No. C.62264.

Figs. 3 & 4. *Cymbiolacca pulchra pulchra* Sowerby. Holotype (copied from original figure). British Museum registered No. 1957.10.10.1.

Figs. 5 & 6, *Cymbiolacca pulchra pulchra* Sowerby. Yeppoon, Queensland. P. Goadby collection.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